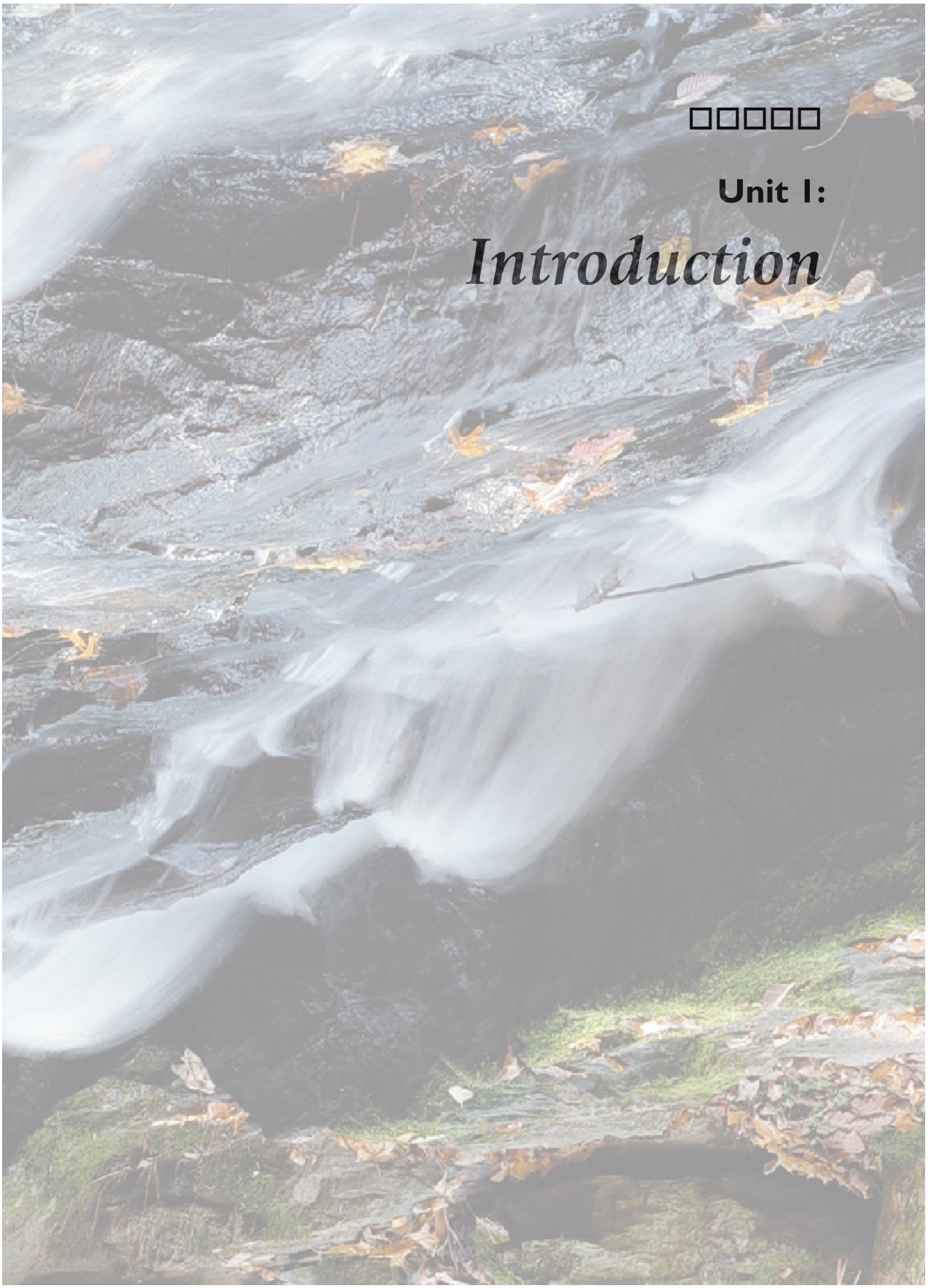

Unit 1:
Introduction

Maine is home to the last remaining populations of wild Atlantic salmon in the U.S., and those populations remain at critically low numbers. Maine is an important habitat for Eastern brook trout populations in the U.S.

Unit 1: Introduction

There are roughly 45,000 miles of streams and rivers in Maine. These streams and rivers serve as habitats and sources of food for many different types of organisms during part or all of their lives.

Maine is home to the last remaining populations of wild Atlantic salmon in the U.S., and those populations remain at critically low numbers. Maine is an important habitat for Eastern brook trout populations in the U.S.

It is also home to a unique blend of certain aquatic insect, crustacean, mollusk, and plant species; as well as home to many exciting and charismatic reptiles, amphibians, birds, and mammals which rely on streams for sources of water and food.

These stream and river ecosystems also provide much aesthetic beauty; they carry water, nutrients, and food resources to downstream waterbodies such as lakes and the ocean; and they provide important economic benefits (e.g., tourism, fishing, recreation, hydropower, industrial process water, etc.) to Maine and its citizens.

The health of streams, rivers, and the organisms that live in them depends on good water quality and aquatic habitat conditions. Humans, however, can disturb and degrade these conditions through land-use and water-use activities that are not done properly or carefully. Maine is no exception. While it has many beautiful miles of pristine or near-pristine waterways, a significant amount of its stream and river miles has been damaged and impacted.

In order to maintain or improve water quality and habitat conditions, these resources need to be assessed, managed, and protected. Nearby human activities must be done with care and according to the latest standards (sometimes referred to as "best management practices" or BMPs).

Volunteers play an important role in assessment and protection activities because the budgets and staffs of state, federal, academic, private, and nonprofit agencies and organizations can only go so far.

■ **Some examples of volunteer activities include:**
- forming and operating watershed groups, stream teams, and land trusts;
- doing streamside tree buffer plantings, trash clean-ups, and stormdrain stenciling projects; and
- educating the public about ways to reduce its contribution of pollution to Maine's waterways.

■ **Surveys are another great activity in which volunteers can participate.**
- In general, a survey is an activity which gathers information about a particular topic or place. (For the purposes of this manual, the term "survey" refers to people [volunteers, watershed managers, scientists, etc.] going out and collecting information about a stream [or river], the land around that waterbody, or both.)

- Surveys are an excellent way for volunteers to help gather important information about streams and rivers, their shoreland areas, and the land surrounding them.
- The survey results can be used to educate the participants, their neighbors, and municipal/state officials about the stream and any potential high-value habitats it may have; and/or potential problems that may threaten or exist in their stream watershed.
- Survey information can then be analyzed and used to make better informed management and conservation decisions related to natural resources.

This guide is designed to help volunteer group leaders and, to some extent, the volunteers themselves learn:

- some basic watershed concepts,
- how to organize and carry out basic stream watershed surveys and stream corridor surveys,
- how to use standardized methods so that the information collected in various watersheds and streams around the state can be readily compared. *(Details about these activities are contained in other units later in this guide.)*

For the sake of simplicity in this manual, the term ***stream*** is used to represent brooks, creeks, and rivers in addition to streams.

For the sake of simplicity in this manual, the term "STREAM" is used to represent brooks, creeks, and rivers in addition to streams.

Let us begin by summarizing the types of information covered in the remaining units and appendices of this guide:

■ Unit 2: Stream, River, and Watershed Basics — An Overview

This unit explains the very basics about streams and watersheds needed before conducting a survey.

For a more detailed discussion about these topics, the reader is referred to the Maine Stream Team Program guide, ***Volume 2: A Citizen's Primer on Stream Ecology, Water Quality, Hydrology, and Fluvial Geomorphology***. To download a copy, visit the Maine Stream Team Program website: http://www.maine.gov/dep/blwq/docstream/team/streamteam.htm.

Alternatively, if an introductory level of information regarding streams is desired, the reader is referred to the brief, but informative, booklet, ***STREAMS***, a project of the Gulf of Maine Aquarium (and funded by the MDEP). It is available online at: http://octopus.gma.org/streams/streams.html or in paperback form from the Maine Stream Team Program *(for contact info, visit the website mentioned above)*.

■ Unit 3: Survey Basics — Purpose, Getting Started, and Organization

This unit discusses different types of surveys that can be done by volunteers, including stream watershed surveys and stream corridor surveys (Level 1), and how to determine the best option for your group (in some cases both are recommended). The remainder of this unit provides instructions on certain organizational steps that are common to both stream watershed surveys and stream corridor surveys.

■ Unit 4: Safety and Private Property

This unit discusses two very important considerations related to conducting stream surveys — accessing private property and planning for safety.

■ Unit 5: Stream Corridor Survey (Level 1)

This unit details the steps required for organizing and completing a volunteer survey that examines the status of aquatic and shoreland/riparian habitat, water quality, and geomorphic (channel shape) stability.

■ Unit 6: Stream Watershed Survey

This unit details the steps required for organizing and completing a volunteer survey that examines the lands in the watershed around a stream for potential or existing sources of pollution or stress which could degrade water quality or habitat conditions in that particular stream. (The term ***watershed*** is described in the beginning of Unit 2.)

■ Unit 7: Take Action

This unit lists suggested steps one can take after gathering and analyzing data collected during stream surveys.

■ Appendices

The appendices in the back of this guide contain important information and data sheets related to various aspects of Units 2 through 7.